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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,650	08/07/2006	Claus Dworski	1431.144.101/FIN 503 PCT/	9691
25281 7590 07/23/2010 DICKE, BILLIG & CZAJA FIFTH STREET TOWERS 100 SOUTH FIFTH STREET, SUITE 2250 MINNEAPOLIS, MN 55402			EXAMINER NGHIEM, MICHAEL P	
			ART UNIT 2863	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/564,650	Applicant(s) DWORSKI ET AL.	
	Examiner MICHAEL P. NGHIEM	Art Unit 2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-37 and 39-64 is/are pending in the application.
- 4a) Of the above claim(s) 46 and 54-64 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 39 and 43-45 is/are allowed.
- 6) ☒ Claim(s) 40-42, 47 and 48 is/are rejected.
- 7) ☒ Claim(s) 33-37 and 49-53 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The Amendment filed on June 9, 2010 has been considered.

Withdrawal of Allowability

The indicated allowability of claims 40-42, 47, and 48 is withdrawn in view of the newly discovered reference(s) to Miller (US 6,606,575), Saeki (US 2002/0079938), and Utsumi et al. (US 5,029,289). Rejections based on the newly cited reference(s) follow.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, two testers (claim 51) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet,

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and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "the multiplier receiving output of the adder" (claim 39) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

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of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 33, 35, 47, and 48 are objected to because of the following informalities:

- claim 33, "the deviation of the test signal" (lines 14-15) should be -- the deviationsof the test signal -- (see specification, page 11, lines 27-30).
- claim 35, "at least one of the quality parameters" (lines 1-2) should be -- the at least one quality parameter --. The quality parameters lack antecedent basis.
- claims 47 and 48, "the standard deviation" (claim 47, line 5; claim 48, line 4) lack antecedent basis.
- claim 47, "the electric phase displacement circuit" (lines 6, 7) should be -- the phase displacement circuit --.
- claim 47, "the second input of the electrical test circuit" should be -- the first input of the electrical test circuit --.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 47, 48, and 50-52 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 47 and 48, the phase of the reference signal is adjusted in accordance with the minimum of the standard deviation is not understood.

Claim 50 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the electrical test circuit is not tied to the electrical phase displacement circuit.

- claim 51, "the reference signal" (lines 9-11) lacks antecedent basis. Which one?
- claim 51, "the phase-displaced reference signal" (lines 15-16) lacks antecedent basis.

The remaining claims are also rejected under 35 U.S.C. 112, second paragraph, for being dependent upon a rejected base claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 40 is rejected under 35 U.S.C. 102(b) as being anticipated by Miller (US 6,606,575).

Regarding claim 40, Miller discloses an electrical test circuit (Fig. 5) for testing integrated circuit (Abstract, lines 1-2), the electrical test circuit comprising:

a first input configured for receiving a test signal of an integrated circuit (comparing test signals, Abstract, line 4);

a second input configured to receive a normalized reference signal, particularly one that is formed to be synchronous with the test signal (comparing reference signal, lines 4-5);

a control device (control circuitry, Fig. 5) configured such that a deviation or an amplitude or a phase of the reference signal or of the test signal is or, respectively, are changed (adjusting delay (Abstract, lines 4-6);

the control device configured to generate a difference signal by subtracting the reference signal from the test signal (comparing test signals with reference signal, Abstract, lines 4-6); and

an output for outputting the difference signal (Match = 0, Fig. 6), wherein the control device comprises a phase displacement circuit (60), the phase displacement circuit being configured in such a manner that the phase of the reference signal is matched to the phase of the test signal (Match signal, Figs. 5, 6).

Even though Miller does not disclose testing plural integrated circuits, particularly dynamic A/D converters, the recitation of plural integrated circuits, particularly dynamic A/D converters has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 41, 42, 47, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Saeki (US 2002/0079938) and Utsumi et al. (US 5,029,289).

Miller discloses all the claimed limitations as discussed above.

Regarding claim 41, Miller does not disclose the phase displacement circuit comprises a shift register, a decoder, at least one bus driver and at least one D-type flip flop.

Nevertheless, Saeki discloses a phase displacement circuit (Fig. 1a) comprises a shift register (101), a decoder (106), at least one bus (bus, Fig. 1a) and at least one D-type flip flop (102) for the purpose of alteration of frequency range (Abstract, lines 1-3) and adjustment of phase (phase shifting, Fig. 1). Utsumi et al. discloses that it is known to provide a bus driver (47 for driving data bus (52) (Fig. 1A).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide Miller with a phase displacement circuit as disclosed by Saeki and Utsumi et al. for the purpose of alteration of frequency range and adjustment of phase.

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Regarding claim 42, Miller does not disclose the phase of the reference signal is displaced up to one half signal period by the phase displacement circuit.

Nevertheless, it would be obvious to displace the phase of the reference signal up to one half signal period by the phase displacement circuit, since it has been held that where the general conditions of the claims are disclosed in Miller (i.e. adjusting/matching phase/delay) for the purpose of cross-correlation between test and reference signals, discovering the optimum value of a result effective variable only involves routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Discovering the optimum phase displacement would depend on how much delay of the test channels is needed to be adjusted.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide Miller with a phase displacement of one half signal period for the purpose of cross-correlation between test and reference signals.

Regarding claim 47, Miller discloses a first output of the electrical phase displacement circuit being connected to the first input of the electrical test circuit (see MATCH signal, Fig. 5) and a second output of the electrical phase displacement circuit being connected to the second input of the electrical test circuit (see TEST signal, Fig. 5).

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However, regarding claims 47 and 48, Miller does not disclose the phase displacement circuit being configured such that the phase of the reference signal is adjusted in accordance with the minimum of the standard deviation.

Nevertheless, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide Miller with adjusting the phase of the reference signal in accordance with the minimum of the standard deviation for the purpose of avoiding a large standard deviation.

Allowable Subject Matter

Claims 33-37 would be allowable if rewritten or amended to overcome the objection(s) set forth in this Office action.

Claims 49-53 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 39 and 43-45 are allowed.

Reasons For Allowance

The **combination** as claimed wherein an electrical test circuit comprising a control device comprising a control loop circuit which is provided for adapting the deviation of the test signal, the control loop circuit being configured in such a manner that a deviation-corrected test signal is generated in that the difference values between the deviation of the test signal and of the reference signal is added together and in that the test signal is corrected by addition with the aggregate difference value (claim 33) or the control device comprises an amplitude correction circuit for matching the amplitude of the reference signal to the amplitude of the test signal, the amplitude correction circuit being configured in such a manner that an amplitude-corrected reference signal is generated in that the absolute value of the deviation-corrected test signal is determined and added together by the amplitude correction circuit and in that the reference signal is corrected with the aggregate absolute value of the deviation-corrected test signal (claim 39) or the squares of the amounts of the difference values between the deviation-corrected test signal and the amplitude- and phase-corrected reference signal is added together by the measuring device or the minimum and maximum values of the difference values between the deviation-corrected test signal and the amplitude- and phase-corrected reference signal is stored by the measuring device (claim 43) or the claimed phase displacement circuit (claims 49-51, 53) is not disclosed, suggested, or made obvious by the prior art of record.

Response to Arguments

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Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Nghiem whose telephone number is (571) 272-2277. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Michael P. Nghiem/

Primary Examiner, GAU 2863

July 20, 2010